

BEFORE THE
Federal Communications Commission
WASHINGTON, D.C. 20554

In the Matter of)
)
Improving Public Safety)
Communications in the 800 MHz Band)
)
Consolidating the 900 MHz Industrial/)
Land Transportation and Business Pool)
Channels)

WT Docket No. 02-55

To: The Commission

REPLY COMMENTS OF DELMARVA POWER & LIGHT COMPANY
AND ATLANTIC CITY ELECTRIC COMPANY

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EXECUTIVE SUMMARY

Delmarva Power & Light Company and Atlantic City Electric Company, licensees of 800 MHz radio systems used to support their electric and gas utility operations, believe that the comments do not provide a sufficient basis to implement a wide-ranging realignment of the 800 MHz band. Commenters, including Delmarva, Atlantic, and several Public Safety entities, recommend that the FCC conduct additional research into the 800 MHz interference problem before adopting a final solution.

In particular, the FCC must undertake a thorough study of the cause and extent of the interference problem because the current record does not reveal the existence of a widespread interference problem involving 800 MHz licensees. The FCC should also investigate whether interfering licensees operate their systems in compliance with the FCC's rules. Nextel asserted that interference occurs even though all licensees adhere to the FCC's rules, but the record contains no evidence that Nextel has complied with the interference mitigation rules by cooperating with its victims or using technical measures to avoid interference.

The FCC should also conduct additional research into the need for additional Public Safety spectrum. Delmarva and Atlantic believe that the FCC should abstain from allocating any additional spectrum to Public Safety until it completes its standard process for assessing the current and future needs of those licensees. Specifically, to resolve the complex issues surrounding the allocation of Public Safety spectrum, the FCC must conduct a study, initiate a separate proceeding, and request public comment.

By conducting this additional research, the FCC will acquire a thorough understanding of the interference problem. This information will enable it to develop an

efficient and effective solution that resolves the interference problem without creating unnecessary or overly broad burdens for licensees that have nothing to do with the interference problem.

Delmarva and Atlantic recommend a market-based approach, including technical measures, as an efficient and effective solution to the interference problem. Commenters provided numerous examples of technical solutions that have successfully resolved the interference problem. A market-based approach would permit licensees to negotiate the resolution of interference taking into account their unique circumstances and causes of interference. By adopting rules to facilitate this market-based approach, the FCC could also eliminate future instances of interference prior to its occurrence.

If the FCC decides to implement a mandatory rebanding, however, then Delmarva and Atlantic recommend the adoption of a 700 MHz plan. Under the 700 MHz plan, the FCC would (1) encourage the negotiated relocation of Public Safety licensees to the unauctioned commercial spectrum in the upper 700 MHz band; (2) auction the former 800 MHz NPSPAC channels; (3) use the NPSPAC auction proceeds to pay for the Public Safety relocation; and (4) provide additional spectrum in the 700 MHz band to Public Safety users. The 700 MHz plan provides the most efficient and effective alternative to market-based technical solutions because it eliminates Public Safety interference in the 800 MHz band and eliminates Public Safety concerns over the potential for CMRS/Public Safety interference in the 700 MHz band. It also fully funds the mandatory relocation, and provides additional Public Safety spectrum. Although legislative and administrative action may be necessary, Congress and the FCC have demonstrated a willingness to adopt measures to implement such a plan.

Alternatively, if the FCC finds that neither the market-based technical solutions nor the 700 MHz plan are appropriate and adopts another rebanding plan, it must ensure that the plan does not suffer from the problems inherent to most existing rebanding proposals. In particular, the FCC must provide comparable and adequate replacement spectrum, an orderly and predictable relocation process, and growth spectrum for Business and I/LT licensees. In addition, because the existing rebanding plans would impose substantial monetary costs and delays, the FCC must provide a sufficient market-based funding mechanism. The FCC should also decline to relegate Business and I/LT licensees to secondary status because of the devastating impact such a requirement would have on their critical communications.

Moreover, because of the diversity among the plans already presented by the commenters, and the lack of sufficient detail for licensees to understand their true ramifications, the FCC should only consider rebanding after issuing a Further Notice of Proposed Rulemaking on a plan that would best minimize interference with the least disruption to incumbents.

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Delmarva Power & Light Company ("Delmarva") and Atlantic City Electric Company ("Atlantic"), through their undersigned telecommunications counsel, submit these Reply Comments on the *Notice of Proposed Rule Making* in the above-captioned matter pursuant to Section 1.415 of the Federal Communications Commission's ("FCC" or "Commission") rules.¹ The FCC initiated this proceeding to investigate harmful interference to Public Safety licensees in the 800 MHz band.

¹ In re Improving Public Safety Communications in the 800 MHz Band; Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels; WT Docket No. 02-55, *Notice of Proposed Rule Making*, 17 F.C.C. Rcd. 4873 (2002) [hereinafter *NPRM*]. The *NPRM* was published in the Federal Register on April 5, 2002. 67 Fed. Reg. 16351 (Apr. 5, 2002). The Wireless Telecommunications Bureau subsequently granted an extension of time for filing reply comments. In re Improving Public Safety Communications in the 800 MHz Band; Consolidating the 800 MHz Industrial/Land Transportation and Business Pool Channels, WT Docket 02-55, 17 F.C.C. Rcd. 8898 (2002).

I. INTRODUCTION

In their comments, Delmarva and Atlantic recommended that the FCC conduct a thorough study to determine the causes and extent of interference in the 800 MHz band. This study would reveal whether band realignment would actually resolve the problem and would enable the FCC to pursue less-disruptive solutions. In particular, Delmarva and Atlantic recommended the resolution of interference on a case-by-case basis using a market-based approach featuring technical measures. Under a market-based approach, the FCC would establish rules to promote the resolution of Public Safety interference through negotiation and arbitration, with firm timelines to ensure prompt elimination of interference. Many commenters concur with Delmarva and Atlantic's assessment and support the use of either technical measures or a market-based approach to resolve 800 MHz interference problems efficiently and effectively.

II. FURTHER STUDY IS NECESSARY TO DETERMINE THE EXTENT OF THE INTERFERENCE PROBLEM AND TO DEVISE AN ADEQUATE SOLUTION

In the *NRPM*, the FCC outlined some possible causes of harmful interference to Public Safety licensees. Because the FCC based this discussion primarily on unconfirmed industry reports,² several commenters, including Delmarva and Atlantic, recommended that the FCC conduct an independent investigation into the source and extent of Public Safety interference. A thorough investigation is necessary to prevent the adoption of an extreme solution based on an incomplete record and to ensure that the chosen solution eliminates interference on a long-term basis.

² *NRPM*, 17 F.C.C. Rcd. 4873 ¶ 11-17. The *NRPM* relied almost exclusively on the *Best Practices Guide* and APCO's *Project 39 Interim Report*.

A. The Record Does Not Reveal a Widespread Interference Problem

The FCC should further investigate the scope and extent of the 800 MHz interference problem because the comments provide only a limited amount of "quantified data concerning the number of interference complaints."³ With the sparse documentation of Public Safety interference in the comments, the primary evidence of the problem remains the *Project 39 Interim Report* and its supplements.⁴ Unfortunately, the *Project 39 Interim Report* provides incomplete information concerning the problem and offers only a starting point for future analysis of the interference in the 800 MHz band.

1. Existing Industry Studies Offer Incomplete Information on the Interference Problem in the 800 MHz Band

The industry studies that served as the basis for the *NPRM* insufficiently document the cause and extent of the interference problem in the 800 MHz band. While the *Best Practices Guide* does not cite any specific cases of interference, APCO admits that its *Project 39 Interim Report* only provides a sample of the problem.⁵ In addition to the limited number of reported cases of interference documented in the *Project 39 Interim Report* and its supplements, the *Interim Report* fails to track the development or resolution of any identified problems and does not include any information on harmful interference suffered by non-Public Safety licensees.⁶

³ Comments of Kenwood Communications Corporation 3 (May 6, 2002) [hereinafter *Kenwood Comments*].

⁴ APCO, Project 39: Interference to Public Safety 800 MHz Radio Systems, *Interim Report to the FCC*, Dec. 24, 2001, available at http://www.apco911.org/afc/project_39/interim_report.pdf [hereinafter *Project 39 Interim Report*].

⁵ Comments of Association of Public-Safety Communications Officials-International, Inc., National Association of Counties, *et al.* 9 (May 6, 2002) [hereinafter *APCO Comments*].

⁶ Several commenters reported that Business and I/LT licensees in the 800 MHz band have suffered harmful interference from low-site digital licensees. Comments of UTC Appendix A (May 6, 2002) [hereinafter *UTC Comments*]; Comments of Consumers Energy 6 (May 6, 2002)

Because of these omissions in the *Project 39 Interim Report* and its supplements, the FCC should conduct an independent and thorough study of the 800 MHz interference problem prior to adopting a costly and disruptive retuning or relocation. Until the completion of that study, Delmarva and Atlantic recommend the resolution of interference through technical measures or a market-based approach, as described in Section IV of these Reply Comments.

2. Commenters Have Raised Concerns about the Legitimacy of the Public Safety Interference Problem

The absence of quantifiable evidence of the interference problem also caused several commenters to question the severity of the Public Safety interference problem. Significantly, Public Safety licensees join private and commercial licensees in their requests for an independent study of the problem.⁷ For example, the International Association of Fire Chiefs and the International Municipal Signal Association, which are organizations that generally favor rebanding, "urge the Commission to direct its Laboratory to conduct empirical research" into the interference problem.⁸ Thus, despite their different views on the rebanding issue, commenters emphasize the importance of a thorough investigation into the source and extent of the interference problem by the FCC or a representative committee of licensees.

Several commenters also question whether the Public Safety interference problem is a subterfuge by Nextel to acquire additional spectrum or to detract attention from its responsibility

[hereinafter *Consumers Comments*]; Comments of National Association of Manufacturers and MRFAC, Inc. 7 (May 6, 2002) [hereinafter *NAM/MRFAC Comments*].

⁷ *E.g.*, Comments of City of Baltimore 6 (May 6, 2002) [hereinafter *Baltimore City Comments*]; Comments of International Association of Fire Chiefs, Inc. and International Municipal Signal Association 9 (May 6, 2002) [hereinafter *IAFC/IMSA Comments*]; Comments of American Petroleum Institute 7 (May 6, 2002) [hereinafter *API Comments*]; *see, e.g.*, Comments of Dallas Area Rapid Transit Authority 3 (May 6, 2002) [hereinafter *DART Comments*] (requesting a thorough study "independent of telecommunication industry representatives").

⁸ *IAFC/IMSA Comments* at 9.

to cure the interference.⁹ For example, even though the City of Baltimore has experienced interference from Nextel on several occasions, it believes that the Public Safety interference problem is "overstated by the commercial parties who see an opportunity to gain valuable blocks of spectrum."¹⁰

Thus, the existing record offers incomplete information on the source and extent of the 800 MHz interference problem. This lack of information suggests that the industry reports and the commenters have not adequately documented the problem or that the problem is not as widespread as originally anticipated. In either case, the FCC should compile a substantial and independent body of knowledge before imposing a multi-billion dollar rebanding plan. Alternatively, the FCC could tailor its response to address the limited nature of this problem.

B. The Record Does Not Provide Sufficient Information to Justify a Costly and Disruptive Retuning or Relocation

The existing record also lacks sufficient evidence to support the retuning or relocation of incumbent licensees in the 800 MHz band. While commenters generally acknowledge that interference afflicts an unknown number of incumbent licensees, and express a desire to resolve this problem, they repeatedly ask the FCC "to consider, after further study, other alternatives that will more efficiently and effectively address the causes of public safety signal interference."¹¹

⁹ *E.g.*, *Baltimore City Comments* at 6; *Comments of Preferred Communications Systems* 7 (May 6, 2002).

¹⁰ *Baltimore City Comments* at 6.

¹¹ *Comments of Kankakee Valley Rural Electric Membership Corporation* 5 (May 6, 2002) [hereinafter *Kankakee Comments*].

1. The FCC Should Not Adopt a Rebanding Plan that Would Impose Substantial Costs and Cause Disruption Without Thoroughly Analyzing Other Alternatives

The FCC should research the interference issue thoroughly to ensure that rebanding would justify the cost and disruption that would result from a retuning or relocation.

Commenters express concern because "the record is devoid of data [to suggest that rebanding] will, in fact, provide genuine interference relief . . . sufficient to warrant the extraordinary costs and disruption to public safety users and others" ¹²

The Public Safety community shares this concern about the retuning and relocation proposals and asks the FCC not to make a hasty decision based on limited information. The State of Florida asserts that "[i]n view of the enormous cost, complexity, and time required to accomplish band restructuring, . . . the Commission [should] thoroughly investigate all possible non-restructuring options for mitigating the problem." ¹³ The City of Baltimore agrees, suggesting that "it may be prudent to establish a public safety/commercial industry investigative committee to develop a clearer record before the Commission rushes to impose costly and disruptive remedies that may go beyond what is necessary." ¹⁴ In addition, many Public Safety licensees have resolved their interference problems through technical measures without the need for retuning or relocation, suggesting that the FCC would be remiss to adopt a rebanding plan without analyzing these successful solutions.

¹² Comments of American Mobile Telecom Association, Inc. 6 (May 6, 2002) [hereinafter *AMTA Comments*]; see, e.g., *API Comments* at 7 (warning that an unsubstantiated rebanding could cause cost and disruption "without even making a substantial dent in the interference problem.").

¹³ Comments of State of Florida 1 ¶ 2 (May 6, 2002) [hereinafter *Florida Comments*].

¹⁴ *Baltimore City Comments* at 6. The IAFC/IMSA, which generally supports rebanding, states that the public interest will not benefit from a "band restructuring proposal which will cost well in excess of One Billion Dollars and entail substantial disruption to communications system operation . . . without the assurance that the plan adopted in fact constitutes a solution to the interference problem." *IMSA/IAFC Comments* at 4.

Thus, these commenters agree with Delmarva and Atlantic that the FCC should undertake "a thorough study of all costs involved in relocating users[] and thorough engineering studies of all possible alternatives . . . before a final plan is implemented."¹⁵

2. Additional Study Would Enable the FCC to Craft a More Efficient Long-Term Solution

"[A] thorough analysis of the major causes of the interference, and their relative contribution to the problem[, is necessary] . . . to address the long term solution to the problem and to find a solution that is permanent."¹⁶ Such an analysis would allow the FCC to eliminate proposals that will not solve the interference problem or will impose unnecessary costs or disruption. By adequately studying the problem, instead of hastily adopting a plan, the FCC will avoid having to revisit this problem at a later date.

3. The Record Does Not Demonstrate that Additional Public Safety Spectrum Would Resolve the Interference Problem

Commenters also fail to provide any basis for their assertions that interference resolution requires the allocation of *additional* spectrum to Public Safety. Although many commenters support both interference resolution and additional Public Safety spectrum, none suggest any correlation between the two. As discussed in greater detail below, additional spectrum does not necessarily result in less interference, especially in the 800 MHz band, because the source of the interference may remain following the allocation.

¹⁵ *DART Comments* at 3; see Comments of American Public Transit Authority 2 (May 6, 2002) [hereinafter *APTA Comments*].

¹⁶ *Kenwood Comments* at 4; see, e.g., *Kankakee Comments* at 5 (requesting additional study to identify "alternatives that will more efficiently and effectively address the causes of public safety signal interference").

C. Before the FCC Implements Any Technical, Market-Based, or Rebanding Solutions, It Should Ensure that the Primary Source of the Interference Operates in Compliance with the Existing Rules

The FCC has promulgated numerous technical, operational, and interference mitigation rules to combat the occurrence of interference in the 800 MHz band. While the Enforcement Bureau has determined that interference occurred "when the public safety mobile or portable radio was proximate to a CMRS transmitter," the *NPRM* did not indicate whether the Bureau has independently ensured that all affected licensees comply with these rules.¹⁷ Instead of enforcing these rules, however, the FCC appears to accept Nextel's assurance that harmful interference occurs "*even though all licensees are operating in compliance with the FCC's rules and the terms and conditions of their FCC licenses.*"¹⁸ Delmarva and Atlantic believe that the FCC should immediately direct the Enforcement Bureau to verify that interfering licensees are operating in compliance with the FCC's rules.¹⁹

1. The FCC Should Enforce Its Technical, Operational, and Interference Mitigation Rules

Part 90 of the FCC's rules contains numerous provisions restricting the technical and operational characteristics of stations licensed in the 800 MHz band. In addition to these technical and operational rules, the FCC has promulgated interference mitigation rules in sections 90.173(b) and 90.403(e). As discussed in Delmarva and Atlantic's comments, as well as

¹⁷ *NPRM*, 17 F.C.C. Rcd. 4873 ¶ 14.

¹⁸ Nextel Communications, Inc., Promoting Public Safety Communications – Realigning the 800 MHz Land Mobile Radio Band to Rectify Commercial Mobile Radio-Public Safety Interference and Allocate Additional Spectrum to Meet Critical Public Safety Needs 7 (Nov. 21, 2001) [hereinafter *Nextel White Paper*].

¹⁹ *DART Comments* at 3; Comments of National Rural Electric Cooperative Association 11 (May 6, 2002) [hereinafter *NRECA Comments*]; Response of Skitronics, LLC, to the Initial Regulatory Flexibility Analysis 4 (May 6, 2002) [hereinafter *Skitronics RFA Response*]; *UTC Comments* at 7.

in other comments, section 90.173(b) requires licensees to cooperate in order to reduce interference.²⁰ If the licensees are unable to reach a mutually satisfactory agreement, however, the FCC "may impose restrictions[,] including specifying the transmitter power, antenna height, or area or hours of operation of the stations concerned."²¹ Section 90.403(e) contains a similar rule on interference mitigation, requiring all licensees to "take reasonable precautions to avoid causing harmful interference."²²

Many commenters state that the enforcement of these rules "would resolve interference and preserve options" and ask the FCC to use its existing enforcement authority to resolve interference in the 800 MHz band.²³ To bolster its request for additional enforcement, the National Rural Electric Cooperative Association quotes a recent speech by Chairman Powell in which he called for the use of "strong enforcement tools against harmful interference"²⁴ as a necessary element of effective spectrum management.²⁵

While no evidence exists concerning the compliance of interfering licensees with the technical and operational rules, some of these licensees appear to have violated the interference mitigation rules. Public Safety licensees report that commercial licensees in the 800 MHz band have only grudgingly cooperated in the resolution of interference, if they have cooperated at

²⁰ 47 C.F.R. § 90.173(b) (2001); *E.g.*, Letter from Dennis C. Brown to Thomas J. Sugrue, Chief, Wireless Telecommunications Bureau 4 (Dec. 17, 2001) [*Brown Paper*]; Comments of Carolina Power and Light and TXU Business Services 7 (May 6, 2002) [hereinafter *CP&L/TXU Comments*]; *DART Comments* at 3; *NRECA Comments* at 11; *Skitronics RFA Response* at 4; *UTC Comments* at 7.

²¹ 47 C.F.R. § 90.173(b); *see, e.g.*, *CP&L/TXU Comments* at 7.

²² 47 C.F.R. § 90.403(e).

²³ *DART Comments* at 3; *see, e.g.*, *Brown Paper* at 4; *CP&L/TXU Comments* at 7; *NRECA Comments* at 11; *Skitronics RFA Response* at 4; *UTC Comments* at 7, 15.

²⁴ *NRECA Comments* at 11 (quoting Remarks of Commission Chairman Michael Powell at the NTIA Spectrum Summit, Apr. 4, 2002).

all.²⁶ For example, the City of Portland states that "[c]omplaint calls into Nextel were basically unanswered" until reports of these problems began to surface in the media.²⁷ Even after Nextel started to comply with its regulatory obligation to cooperate, it dragged its feet on a subsequent Letter of Understanding and reversed successful interference mitigation efforts.²⁸ Thus, Nextel's behavior in this situation clearly violated the underlying purpose of the FCC's interference mitigation rules, if not the rules themselves.

Before imposing a costly and disruptive solution, the FCC should verify through an independent investigation that the licensees interfering with Public Safety operations comply with the applicable technical, operational, and interference mitigation requirements. If not, the FCC should enforce these rules prior to proposing a rebanding. The enforcement of these rules may eliminate all existing interference and would almost certainly reduce the scope of any interference problem, thus directly affecting the extent of any corrective measures.

2. The FCC Should Enforce the Promises in Nextel's Waiver Requests by Requiring It to Mitigate any Interference through Technical Measures

Several commenters ask the FCC to require Nextel to resolve interference through technical measures. These commenters note that Nextel's predecessor, Fleet Call, made certain representations concerning interference resolution with respect to its unconventional operations

²⁵ *Id.* at 11.

²⁶ Comments of Utah Communications Agency Network 3 ¶ 9 (May 6, 2002) ("some commercial providers will work [on] issues, [but] others take a "its [sic] not our problem stance.") [hereinafter *UCAN Comments*].

²⁷ Comments of City of Portland 3 (May 6, 2002) [hereinafter *Portland Comments*].

²⁸ *Id.* at 4, 6.

in a waiver request.²⁹ In this waiver request, Fleet Call stated that interference would be an isolated event and "can be resolved by utilizing a number of frequencies, reducing power or height, re-orienting or changing directional antennas, or employing electrical or mechanical beam-tilt."³⁰ Delmarva and Atlantic concur with these commenters that the FCC should hold Nextel accountable for this promise to employ technical remedies. "Public Safety and B/ILT licensees should not be disrupted because Nextel no longer finds a technical approach to the problem convenient or financially attractive."³¹

III. THE CURRENT PROCEEDING IS NOT THE APPROPRIATE TIME TO DETERMINE WHETHER PUBLIC SAFETY SHOULD RECEIVE ADDITIONAL SPECTRUM

The FCC should initiate a separate proceeding to address Public Safety spectrum needs. Although most Public Safety commenters expressed a general desire for additional spectrum,³² Delmarva and Atlantic, as well as several other commenters, believe that the current "proceeding should not be about the location of additional spectrum for public safety, as opposed to the correction of interference to public safety systems."³³

²⁹ Comments of American Electric Power 17 (May 6, 2002) [hereinafter *AEP Comments*], *CP&L/TXU Comments* at 8-10; Comments of Commercial Radio and Television, Inc. 2 (May 6, 2002) [hereinafter *CR&T Comments*]; Comments of Madison County East Transit District 10 (May 6, 2002) [hereinafter *Madison County Comments*].

³⁰ *CP&L/TXU Comments* at 10 (quoting Fleet Call Waiver Request, A-13).

³¹ *AEP Comments* at 17.

³² *E.g.*, *APCO Comments* at 11-19.

³³ Comments of Private Wireless Coalition 8 (May 6, 2002) [hereinafter *Private Wireless Coalition Comments*]; *see, e.g.*, Comments of Entergy Corporation and Entergy Services, Inc. 4-5 (May 6, 2002) [hereinafter *Entergy Comments*]; Comments of SCANA Corporation 7, 41 (May 6, 2002) [hereinafter *SCANA Comments*]; *AEP Comments* at 4; Comments of Sid Richardson Energy Services Co. 3 (May 6, 2002) [hereinafter *Sid Richardson Comments*]; Comments of Palomar Communications, Ragan Communications, *et al.* 30-32 (May 6, 2002) [hereinafter *Tilles Joint Commenters*].

Although Delmarva and Atlantic do not necessarily oppose the allocation of additional Public Safety spectrum, they agree with the FCC that "forecasting demand for spectrum has been extremely problematic."³⁴ Before allocating spectrum to Public Safety services, the FCC must address several complicated issues related to four general categories: (1) telecommunications requirements; (2) spectrum availability and suitability; (3) technical and economic alternatives; and (4) interoperability.³⁵ Because the FCC has barely started the intricate process necessary to allocate spectrum, and because this proceeding already involves an abundance of complicated issues, Delmarva and Atlantic recommend the initiation of another proceeding to focus on the issue of additional Public Safety spectrum. Any attempt to allocate spectrum in the current proceeding would inevitably delay the resolution of interference indefinitely.

A. The FCC Should Abstain from Allocating Any Additional Public Safety Spectrum until It Completes the Standard Process

The Administrative Procedure Act requires the FCC to consider the issues relevant to a rulemaking adequately and to make an informed decision based on a substantial record.³⁶ To comply with this statutory requirement, and avoid making an arbitrary and capricious decision,

³⁴ In re Report and Plan for Meeting State and Local Government Public Safety Agency Spectrum Needs through the Year 2010, *Report and Plan*, 10 F.C.C. Rcd. 5207, 5242 (1995) [hereinafter *1995 FCC Public Safety Report*].

³⁵ Public Safety Wireless Advisory Committee, *Final Report to the FCC and the NTIA* 58-66 (1996) [hereinafter *PSWAC Final Report*]; In re Development of Operational, Technical, and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements through the Year 2010, WT Docket No. 96-86, *Notice of Proposed Rule Making*, 11 F.C.C. Rcd. 12460, 12485 ¶ 71 (1996) [hereinafter *PSWAC NPRM*]; *1995 FCC Public Safety Report*, 10 F.C.C. Rcd. 5207; Federal Public Safety Telecommunications Requirements, 49 Fed. Reg. 9754 (Mar. 15, 1984) [hereinafter *1984 Public Safety Notice of Inquiry*].

³⁶ 5 U.S.C. § 706 (2002); see *1995 FCC Public Safety Report*, 10 F.C.C. Rcd. at 5236 ("It is better, we believe, to delay our decision [on the allocation of Public Safety spectrum] if this additional time can be used to gather the information necessary for informed judgments . . . thus

the FCC has established a two-part decision-making process through which it (1) conducts a study to identify current and future Public Safety spectrum needs,³⁷ and (2) initiates a separate rulemaking proceeding.³⁸ During each part of the process, the FCC requests multiple rounds of public comment. The FCC has followed this standard process in its recent allocations of Public Safety spectrum, including the 800 MHz NPSPAC channels, the 700 MHz band, and the 4.9 GHz band.³⁹

In the current proceeding, however, the FCC has not conducted or commissioned a new study on current and future Public Safety spectrum needs, despite the fact that recent circumstances have rendered the 1996 *PSWAC Final Report* obsolete.⁴⁰ In addition, the FCC has raised the allocation issue in an already-complicated proceeding on interference resolution rather than initiating a separate proceeding. Finally, by streamlining the Public Safety spectrum allocation inquiry, public has only had a limited opportunity to comment.

enabling us to reach reasonable and defensible conclusions regarding the adequacy of frequency allocations for state and local public safety agencies.").

³⁷ *PSWAC Final Report, passim*; *1995 FCC Public Safety Report*, 10 F.C.C. Rcd. 5207; Private Radio Bureau, *Report on Future Public Safety Telecommunications Requirements*, PR Docket No. 84-232 (Aug. 1, 1985), released by Order Regarding Staff Report, *Future Public Safety Telecommunications Requirements*, 50 Fed. Reg. 32239 (Aug. 9, 1985); Private Radio Bureau, *Future Private Land Mobile Telecommunications Requirements: Final Report*, released by In re Amendment of the Commission's Rules to Allocate Frequencies in Specific MHz Bands for Private Land Mobile Use, GEN Docket No. 84-1233, *Notice of Proposed Rule Making*, FCC 84-575, 50 Fed. Reg. 1582 (Jan. 11, 1985) [hereinafter *1985 FCC Public Safety Report*].

³⁸ *PSWAC NPRM*, 11 F.C.C. 12460; *1985 FCC Public Safety Report*, 50 Fed. Reg. 1582; *1984 Public Safety Notice of Inquiry*, 49 Fed. Reg. 9754.

³⁹ In re 4.9 GHz Band Transferred from Federal Government Use, WT Docket No. 00-32, *Notice of Proposed Rulemaking*, 15 F.C.C. Rcd. 4778 (2000); In re Reallocation of Television Channels 60-69, the 746-806 MHz Band, ET Docket No. 97-157, *Notice of Proposed Rule Making*, 12 F.C.C. Rcd. 14141 (1997); In re Development and Implementation of a Public Safety National Plan and Amendment of Part 90 to Establish Service Rules and Technical Standards for Use of the 821-824/866-869 MHz Bands by the Public Safety Services, GEN Docket No. 87-112, *Notice of Proposed Rulemaking*, 2 F.C.C. Rcd. 2869, 2873 (1987).

⁴⁰ *PSWAC Final Report*.

B. The 800 MHz Band Is Not A Suitable Location for Additional Public Safety Spectrum

If the FCC allocates additional Public Safety spectrum, it should identify spectrum outside the 800 MHz band. Several commenters, including Delmarva and Atlantic, concluded that the 800 MHz band could not sustain another Public Safety allocation because of the existing congestion and the continued presence of interference-causing low-site digital licensees.⁴¹ As UTC notes, "[t]he band has evolved over 30 years and is heavily used by utilities, among others, that have invested hundreds of millions of dollars into deploying and maintaining extensive systems."⁴² Reallocating this spectrum would rob these licensees of their regulatory certainty and would have disastrous consequences on critical infrastructure systems.

In lieu of allocating additional 800 MHz spectrum for Public Safety licensees, the FCC should continue to encourage shared Public Safety/Public Service radio systems. Previous studies have supported the development of more shared and joint use systems as well as the deployment of more spectrally efficient radio projects on the state and regional levels to ensure sufficient spectrum for Public Safety users.⁴³ Several commenters agree with this assessment, asserting that "shared systems should help to mitigate the need for additional public safety spectrum in the 800 MHz band."⁴⁴ In addition, because many commenters observed a trend among Public Safety users to "migrat[e] toward high-capacity, more interference-resistant digital

⁴¹ *E.g., NAM/MRFAC Comments at 6; UTC Comments at 28.*

⁴² *UTC Comments at 28.*

⁴³ *PSWAC Final Report at 3; see also In the Matter of Report and Plan for Meeting State and Local Government Public Safety Agency Spectrum Needs through the Year 2010, Report and Plan*, 10 F.C.C. Rcd. 5207, 5245-46 (1995) (encouraging Public Safety wide-area shared systems to meet Public Safety spectrum needs).

⁴⁴ *UTC Comments at 29; e.g., NRECA Comments at 7.*

systems,"⁴⁵ shared systems enable these governmental licensees to defray the expense of advanced technology. Finally, "[t]hese shared systems promote interoperability with, and improve the quality of, Public Safety communications by extending the coverage and capacity; they are made affordable because the costs are shared on a non-profit basis."⁴⁶

IV. THE SUBSTANTIAL WEIGHT OF THE COMMENTS SUPPORTS THE IMPLEMENTATION OF TECHNICAL OR MARKET-BASED SOLUTIONS

Licensees should implement technical measures to resolve interference in the 800 MHz band. While the record indicates that retuning or relocation will not alleviate interference in the 800 MHz band, many commenters, including Public Safety licensees, described technical measures that have successfully resolved interference from low-site digital licensees without resort to rebanding. Although commenters do not agree on any single solution that will resolve every interference case, they propose a variety of CMRS-specific and Public Safety-specific measures that could resolve the individual problems. To encourage the use of these technical measures, the FCC should adopt the market-based approach that Delmarva and Atlantic as well as other commenters recommended in their comments. Such a market-based approach would enable licensees to resolve interference without the need for governmental intervention.

A. Retuning or Relocation Would Not Eliminate Public Safety Interference

Commenters generally opposed both the out-of-band and in-band relocation plans. Although Nextel argues that Public Safety licensees should be contented to retune or relocate,

⁴⁵ Comments of Coupe Communications 3 (May 6, 2002) [hereinafter *Coupe Comments*]; e.g., *UTC Comments* at 29.

⁴⁶ *UTC Comments* at 29.

several Public Safety commenters disagree with the concept of rebanding.⁴⁷ Even Nextel's own equipment supplier and part-owner, Motorola, disagrees with this proposed cure for the interference problem.⁴⁸

1. The Commenters Agree that Rebanding Will Not Eradicate Public Safety Interference

A significant reason for this condemnation of retuning or relocation is because they would not clearly eliminate the Public Safety interference problem. In its *NPRM*, the FCC noted that "[i]t is not intuitively obvious that either Nextel's or NAM's proposed reconfiguration of the 800 MHz band would significantly reduce intermodulation interference."⁴⁹ Commenters agree with the FCC's concern about intermodulation interference, observing that "Nextel's proposal appears to do little to address a significant part of the problem."⁵⁰ In particular, the existing plans move Business and I/LT licensees to other bands but "leave[] Nextel's cellular architecture within the pass bands of existing public safety receivers," thus permitting intermodulation interference to continue unabated.⁵¹

Commenters that have experienced interference from Nextel's low-site digital systems also note that retuning or relocation would not resolve the problem. For example, the City of Portland reports that "[t]he band re-alignment approach would *not resolve* the interference

⁴⁷ E.g., Comments of Michigan State Police Communications Division 1-2 (May 6, 2002) [hereinafter *Michigan State Police Comments*]; Comments of Commonwealth of Virginia 4 (May 6, 2002) [hereinafter *Virginia Comments*]; Comments of City of Newport News 1 (May 4, 2002) [hereinafter *Newport News Comments*]; Comments of City of New York 2 (Apr. 5, 2002); *Baltimore City Comments* at 3-4, 5-6.

⁴⁸ Comments of Motorola 3 (May 6, 2002) [hereinafter *Motorola Comments*].

⁴⁹ *NPRM*, 17 F.C.C. Rcd. 4873 ¶ 27.

⁵⁰ *NRECA Comments* at 10.

⁵¹ *AEP Comments* at 5.

problems currently being experienced by [its] mobile data system."⁵² "[U]tilities have [also] learned through their own experience with interference from Nextel that spectral separation alone does not solve the interference problem."⁵³

2. Technical Solutions Are Necessary to Resolve Public Safety Interference

Although some commenters suggest that retuning or relocation would resolve some types of interference, they concede that these proposals "will all need to be augmented with other remedies because rebanding alone will not completely eradicate the potential for intermodulation interference to occur throughout the 800 MHz band."⁵⁴ Because technical solutions are an integral part of every interference resolution plan, Delmarva and Atlantic believe that the FCC should employ technical solutions prior to imposing a costly and disruptive rebanding. By trying technical solutions first, the FCC might be able to eliminate most, if not all, instances of interference, thus negating the need for a band-wide solution.

3. Retuning or Relocation Would Cause Additional Problems

Commenters also identify additional burdens that would arise from any mandatory retuning or relocation. In particular, Baltimore County asserts that relocation of Public Safety

⁵² *Portland Comments* at 9; *see, e.g.*, Comments of Harmer Communications 2 (May 3, 2002) (SMR licensee) [hereinafter *Harmer Comments*].

⁵³ *UTC Comments* at 18.

⁵⁴ *Motorola Comments* at 17; *see, e.g.*, Comments of Nextel Communications, Inc. 23-25 (May 6, 2002) [hereinafter *Nextel Comments*]; Comments of TRW, Ohio MARCS Program Office 3 (May 6, 2002) [hereinafter *TRW Comments*]; Comments of Cellular Telecommunications & Internet Association 7-8 (May 6, 2002) [hereinafter *CTIA Comments*]; Comments of RadioSoft at 6 (May 6, 2002) [hereinafter *RadioSoft Comments*]; Comments of Office of the Chief Technology Officer, Government of the District of Columbia at 16-17 [hereinafter *District of Columbia Comments*]; Comments of M/A-COM, Inc. 11 (May 6, 2002) [hereinafter *M/A-COM Comments*]; *Private Wireless Coalition Comments* at 11-13; Comments of Pinnacle West Capital Corporation 11-13, 15-16 (May 6, 2002) [hereinafter *Pinnacle West Comments*].

licensees "could create additional interference and interoperability problems."⁵⁵ Other Public Safety licensees express concern that any type of retuning or relocation would "require substantial expenditure of time and resources."⁵⁶ In addition, a few commenters propose to require Business and I/LT licensees to serve as a buffer zone between Public Safety and CMRS licensees in the 800 MHz band, improperly suggesting that these licensees should bear the brunt of low-site digital licensee interference.⁵⁷ Because of these additional complications, Commercial Radio and Television comments, "any type of re-banding only makes a bad situation worse."⁵⁸

B. The FCC Should Pursue Technical Solutions as the Sole or Primary Means of Resolving Interference

1. Public Safety Licensees Have Previously Resolved Harmful Interference through the Use of Technical Solutions

Many Public Safety commenters support the use of "good engineering practice and the techniques described in the 'Best Practices Guide'" to limit the cost and disruption associated with interference resolution.⁵⁹ The comments contain several specific examples of licensees that have resolved harmful interference through technical measures.⁶⁰ Although the technical measures will vary depending on the circumstances, many commenters have reduced or

⁵⁵ Comments of Baltimore County Office of Information Technology 4 (Apr. 12, 2002) [hereinafter *Baltimore County Comments*].

⁵⁶ *APCO Comments* at 22; see, e.g., *Virginia Comments* at 21.

⁵⁷ *Private Wireless Coalition Comments* at 15.

⁵⁸ *CR&T Comments* at 1; see, e.g., Comments of American Water Works Association 2 (May 6, 2002); Comments of New York City Transit Authority 9 (May 6, 2002).

⁵⁹ Comments of County of Fairfax, Virginia 5 ¶ 17 (May 6, 2002) [hereinafter *Fairfax County Comments*]; see, e.g., Comments of City of Gainesville Police Department 3 (Apr. 29, 2002) [hereinafter *Gainesville Police Department Comments*].

eliminated interference by correcting the lack of selectivity in Public Safety receivers, lowering the interfering licensee's signal strength, or using cavity combiners instead of hybrid combiners.

Public Safety licensees have found that interference resolution was a quick and inexpensive process through modifications to correct the lack of selectivity in their receivers. For example, Portland discovered that a "single component replacement" would "greatly improve[] the performance of the MTS receiver in high RF areas. The cost of this modification is less than a dime per unit for parts."⁶¹ Similarly, the State of Florida notes that it merely had to change the receiver pads in its mobile receiver to "successfully operate on the desired frequency."⁶² In addition, Public Safety licensees have also reduced interference by having the interfering licensee reduce its signal strength.⁶³

Finally, Public Safety licensees have resolved interference through the use of cavity combiners. San Diego County-Imperial County reports that "[t]ransmitter combiners used by Nextel are a wideband type without cavity filters. These combiners are inferior and have resulted in emissions that cause harmful interference on some of our channels."⁶⁴ Thus, the "use of cavity combiners would help reduce harmful interference."⁶⁵

⁶⁰ *Portland Comments* at 5; *Baltimore County Comments* at 3; *Florida Comments* at 7 ¶ 27; *UCAN Comments* at 3 ¶ 9; *Fairfax County Comments* at 6 ¶ 21.

⁶¹ *Portland Comments* at 5.

⁶² *Florida Comments* at 7 ¶ 27.

⁶³ Comments of San Diego County-Imperial County Regional Communications System 2 (May 6, 2002) [hereinafter *San Diego County-Imperial County Comments*].

⁶⁴ *Id.*

⁶⁵ *Id.*

2. Non-Public Safety Licensees Also Reported Successful Interference Mitigation Using Technical Measures

Although Public Safety interference is the focus of this rulemaking proceeding, many non-Public Safety entities have also experienced success resolving interference through technical measures. In particular, commenters report that successful interference resolution has occurred through the "installation of adequate filtration."⁶⁶ According to Danny Hampton, a former Nextel technician who now consults on interference problems, the interference problem arose when "[c]avity combiners were replaced with hybrid combiners which allowed the addition of more channels at a given site in a small physical footprint within the site equipment shelter. . . . [T]his change along with several others caused the noise floor to increase dramatically at most sites."⁶⁷ Thus, these non-Public Safety entities agree that "the majority of this problem can and should be resolved by applying good engineering practices at each Nextel site"⁶⁸

3. A Market-Based Approach Would Alleviate Public Safety Concerns about the Use of Technical Measures to Resolve Interference

The implementation of a market-based approach would also answer Public Safety objections to the use of technical measures. Despite their success resolving interference through technical solutions, some Public Safety licensees harbor concerns about the willingness of commercial carriers to cooperate in the resolution of the problem.⁶⁹ The City of Portland complains that after a period of interference-free operation, Nextel's engineers eventually

⁶⁶ *Consumers Comments* at 6; see, e.g., *CR&T Comments* at 1-2; *Comments of Danny Hampton* 1-2 (May 6, 2002) [hereinafter *Danny Hampton Comments*]; *Comments of Skitronics, LLC* 27 (May 6, 2002) [hereinafter *Skitronics Comments*].

⁶⁷ *Danny Hampton Comments* at 1-2.

⁶⁸ *Id.* at 2.

⁶⁹ *Portland Comments* at 6; *UCAN Comments* at 3 ¶ 9.

reverted to the old network configuration, resulting in a resumption of interference.⁷⁰ In addition, although UCAN experienced success with interference resolution during the 2002 Olympic Games, it discovered that some commercial licensees would not cooperate to resolve the problem.⁷¹ Although these problems of commercial carrier intransigence are troublesome, Delmarva and Atlantic's market-based approach would clarify that the interference-causing entity is responsible for resolving the interference, thus forcing these licensees to cooperate by imposing financial liability.

Commenters also express concern that technical or market-based measures constitute after-the-fact interference resolution.⁷² These complaints overlook the financial incentive that low-site digital licensees would have to avoid causing interference. A market-based approach, such as that recommended by Delmarva and Atlantic, would set forth the rights and responsibilities of the licensees and require the responsible licensee to remedy the problem. To avoid incurring these remediation costs, potential interferors would design their systems to avoid causing interference in the first place. Thus, by establishing appropriate financial incentives, a market-based approach "would encourage businesses to [implement] . . . the most efficient and effective solutions" to the interference problem.⁷³

⁷⁰ *Portland Comments* at 6.

⁷¹ *UCAN Comments* at 3 ¶ 9.

⁷² *APCO Comments* at 9-10; Comments of King County Information and Telecommunications Services Division 1 (May 6, 2002).

⁷³ *Skitronics Comments* at 36.

4. The Wide Variety of Proposed Technical Solutions Suggests that Interference Is Site-Specific and Defies an All-Encompassing Solution

In addition to the technical solutions used to resolve the specific problems described above, commenters also advocate a variety of other technical measures. For example, commenters recommend Public Safety-specific solutions, including (1) increased signal strength; (2) increased sensitivity of receivers; and (3) mandated use of cellular architecture.⁷⁴

Commenters also suggest the following CMRS-specific solutions: (1) reduced signal strength; (2) antenna restrictions; (3) out-of-band emission restrictions; (4) required use of cavity combiners; (5) mandatory intermodulation ratios; (6) channel mask; (7) notification/consent requirement before constructing new base station sites; (8) filters; (9) secondary status; (10) tower restrictions; and (11) frequency coordination.⁷⁵ While most CMRS-specific solutions related to specific technical requirements, some commenters recommend the complete prohibition of low-site digital systems.⁷⁶

This laundry list of proposed technical solutions indicates that several alternatives may exist to resolve the Public Safety interference problem without resorting to retuning or relocation. The range of alternatives also demonstrates that interference can be resolved while avoiding unnecessary costs and disruption, in accordance with the FCC's goal for this

⁷⁴ *Fairfax County Comments* at 7 ¶ 26; *UTC Comments* at 29; *Coupe Comments* at 3.

⁷⁵ *E.g.*, *Nextel Comments* at 23-26; Comments of E.F. Johnson 4 (May 6, 2002) [hereinafter *E.F. Johnson Comments*]; *Pinnacle West Comments* at 6, 12-13, 22-23, 27, 29, 30; Comments of Telecommunications Industry Association 3-5 (May 6, 2002).

⁷⁶ *E.g.*, Comments of Jamestown Communications, Inc. and Midwest Management, Inc. 8 (May 6, 2002) [hereinafter *Jamestown/Midwest Comments*]; *Skitronics Comments* at 31. Even Nextel has represented to the FCC that it can deploy very low power "pico cells" on its 800 MHz channels and interconnect them with its 900 MHz spectrum as a means of preventing interference to Public Safety. In re FCI 900, Inc. Expedited Request for 3-Year Extension of 900 MHz Band Construction Requirements, *Memorandum Opinion and Order*, 16 F.C.C. Rcd. 11072 (2001).

proceeding. The absence of a uniform technical solution also suggests that a single solution may not exist and that the FCC should encourage case-by-case analysis and resolution, as proposed in Delmarva and Atlantic's Comments. Finally, the wide variety of technical recommendations could indicate that the FCC needs to conduct independent research to ascertain the extent and source of the Public Safety interference problem.

C. A Market-Based Solution Would Resolve Interference Without Governmental Intervention

Delmarva and Atlantic agree with the commenters that recommend a market-based approach or endorse the general components of such an approach.⁷⁷ Under a market-based approach, the FCC would clarify that the interfering licensee is ultimately responsible for resolving harmful interference.⁷⁸ This clarification incorporates the existing FCC rules in sections 90.173(b) and 90.403(e) because it requires the cooperation of the licensees, encourages technical solutions, and emphasizes the enforcement of the existing rules. By expressly placing responsibility on the interfering licensee to resolve the problem, this clarification also comports with the widely held belief among commenters that "innocent parties should not be required to . . . participate in a compensation program for Public Safety brought about by the action of another

⁷⁷ E.g., Comments of National Rural Telecommunications Cooperative 6 (May 6, 2002) [hereinafter *National Rural Telecom Comments*], *Kankakee Comments* at 4; Comments of White County Rural Electric Membership Cooperative 4 (May 6, 2002) [hereinafter *White County Comments*]; Comments of Boone Electric Cooperative 3 (May 6, 2002) [hereinafter *Boone Comments*].

⁷⁸ E.g., *API Comments* at 13-14, Comments of Ameren Corporation 5 (May 2, 2002); Comments of Questar Corporation 3 (May 6, 2002) [hereinafter *Questar Comments*]; *Consumers Comments* at 8-10; *CP&L/TXU Comments* at 17-18; Comments of Omaha Public Power District and Metropolitan Utilities District 3-4 (Apr. 30, 2002); *Brown Paper* at 6; *Skitronics Comments* at 33-34.

party.⁷⁹ In addition, Public Safety licensees would also receive reimbursement for any necessary technical changes or relocations.

The market-based approach also encourages the use of technical solutions. When implementing this approach, the FCC should not mandate any particular interference resolution mechanism but should allow parties to implement different technical measures depending on the specific circumstances.

The commenters also state that the FCC should revise its rules to permit channel swaps and negotiated relocation.⁸⁰ Although Delmarva and Atlantic believe that technical measures would resolve any instance of interference, the market-based approach grants licensees flexibility to negotiate resolution on their own terms. This component would limit disruption because licensees in the 800 MHz band would not have to relocate involuntarily, thus protecting public safety and critical infrastructure industry licensees. If Nextel is correct in its assertions that relocating 800 MHz users is the only way to resolve interference, a market-based approach would allow it to implement such a relocation in accordance with the FCC's goal of minimizing disruption to licensees.

⁷⁹ *AEP Comments* at 12; *see, e.g.*, Comments of State of New York Office for Technology 24, 46 (May 2, 2002) [hereinafter *New York State Comments*]; *Newport News Comments* at 1; *Michigan State Police Comments* at 2; *Fairfax County Comments* at 4, 7 ¶ 12-13, 27; *IAFC/IMSA Comments* at 11.

⁸⁰ *E.g.*, *UTC Comments* at 22-24; *API Comments* at 7; *TIA Comments* at 5; *NRECA Comments* at 12; *Harmer Comments* at 5, Comments of Southern Communications Services, Inc. d/b/a Southern LINC 24-25 (May 6, 2002) [hereinafter *Southern LINC Comments*]; Comments of Cingular Wireless, LLC and Alltel Communications, Inc. 20 (May 6, 2002) [*Cingular/Alltel Comments*]; Comments of Access Spectrum, LLC 7, 8-9 (May 6, 2002); *Qwestar Comments* at 3; *CP&L/TXU Comments* at 18-19; *Brown Paper* at 7.

V. IF THE FCC IMPOSES A MANDATORY REBANDING, IT SHOULD RELOCATE PUBLIC SAFETY LICENSEES TO THE 700 MHZ BAND

Delmarva and Atlantic favor the application of technical or market-based solutions to resolve Public Safety interference. In addition, they believe that the FCC should update Public Safety's current and future spectrum requirements before allocating any additional spectrum for Public Safety use. If the FCC decides to realign the 800 MHz band and allocate additional Public Safety spectrum in this proceeding, however, it should provide for relocation of Public Safety licensees to the 700 MHz band.

While Delmarva and Atlantic do not support a specific 700 MHz Public Safety relocation plan, they endorse the general concepts contained in these plans.⁸¹ Specifically, each plan (1) relocates Public Safety licensees to the unauctioned spectrum in the upper 700 MHz band;⁸² (2) auctions the 800 MHz spectrum vacated by the Public Safety licensees;⁸³ (3) uses 800 MHz auction proceeds to fund Public Safety relocation;⁸⁴ and (4) provides additional spectrum in the 700 MHz band to Public Safety users.⁸⁵ Although these plans use the 700 MHz band to relocate incumbent 800 MHz Public Safety licensees, they do not implicate the previously auctioned 700 MHz Guard Band spectrum and thus differ substantially from the Nextel Plan.

⁸¹ *E.g., Cingular/Alltel Comments* at 16-19; *Private Wireless Coalition Comments* at 6-11; *CTIA Comments* at 8-11.

⁸² *Cingular/Alltel Comments* at 17; *CTIA Comments* at 9; *Private Wireless Coalition Comments* at 7. As discussed below, these 700 MHz alternative plans differ from the Nextel Plan's use of the 700 MHz spectrum. While the Nextel Plan would relocate Business and I/LT licensees to the 700 MHz Guard Band, the 700 MHz alternative plans would relocate the Public Safety licensees to the 30 MHz of commercial spectrum not previously auctioned as Guard Bands.

⁸³ *Cingular/Alltel Comments* at 18; *CTIA Comments* at 9; *Private Wireless Coalition Comments* at 9.

⁸⁴ *Cingular/Alltel Comments* at 18; *CTIA Comments* at 9; *Private Wireless Coalition Comments* at 9.

⁸⁵ *Cingular/Alltel Comments* at 19; *Private Wireless Coalition Comments* at 8.

Even though the *NPRM* did not outline the 700 MHz plans, several commenters state their approval of such a plan as "the least detrimental to incumbent 800 MHz operators, while providing the greatest long-term benefits for all."⁸⁶ While much support emanates from private and commercial licensees, proponents of other rebanding plans also state that the 700 MHz plans offer a tenable solution to the 800 MHz interference problem.⁸⁷ Public Safety commenters also recognize the potential of the 700 MHz alternative plans to resolve harmful interference. In particular, APCO, the National Emergency Number Association, and the Bergen County Police Department requested the postponement of the 700 MHz auction to permit further exploration of this alternative.⁸⁸

The popularity of these 700 MHz plans reflects their compliance with the goals of this proceeding. Specifically, the plans would minimize disruption to existing licensees and allocate a substantial amount of additional spectrum to Public Safety users.⁸⁹

⁸⁶ *E.g.*, *Jamestown/Midwest Comments* at 6-7; *Blooston Commenters* at 6-7; *Madison County Comments* at 9; Comments of Lockheed Martin Corporation 5 (May 6, 2002) [hereinafter *Lockheed Martin Comments*]; Comments of Aeronautical Radio, Inc. 1 (May 6, 2002); Comments of Fisher Wireless Services, Inc. 3, 9-10 ¶ 3, 11-13 (May 6, 2002); Comments of RCC Consultants, Inc. 5 (May 6, 2002) [hereinafter *RCC Consultants Comments*]; Comments of Boeing Company 17-19 (May 6, 2002) [hereinafter *Boeing Comments*]; *Southern LINC Comments* at 27-30; Comments of AT&T Wireless Services, Inc. 10-12 (May 6, 2002) [hereinafter *AT&T Comments*]; *Cingular/Alltel Comments* at 16-19; *Private Wireless Coalition Comments* at 6-11 (representing ARINC, AAR, Forest Industries Telecommunications, Industrial Telecommunications Association, Inc., MRFAC, NAM, Personal Communications Industry Association, and Small Business in Telecommunications).

⁸⁷ *NAM/MRFAC Comments* at 4.

⁸⁸ Letter from Glen Nash, President of APCO International, to Michael Powell, Chairman of the Federal Communications Commission, WT Docket No. 99-168, GN Docket No. 01-74 1 (May 2, 2002); Comments of the National Emergency Number Association, Service Rules for the 746-764 and 776-794 MHz Bands (Television Channels 60-69), WT Docket No. 99-168, GN Docket No. 01-74, DA 02-260, 02-563, 2-3 (May 1, 2002); Comments of Bergen County Police Department 6 (May 6, 2002) [hereinafter *Bergen County Police Comments*].

⁸⁹ *NPRM*, 17 F.C.C. Rcd. 4873 ¶ 2.

1. The 700 MHz Plans Would Cause the Least Disruption to Incumbent Licensees in the 800 MHz Band

In Sections IV.A and VI.A-E of these Reply Comments, Delmarva and Atlantic discuss problems common to all 800 MHz realignment plans. Although the 700 MHz plans suffer from some of these problems, they provide the best realignment solution available at this time.

a. The 700 MHz Plans Would Eliminate Public Safety Interference in the 800 MHz Band

While most 800 MHz realignment plans would not completely resolve intermodulation interference, the 700 MHz plans would remove Public Safety licensees from the band, "creat[ing] sufficient spectral separation from the offending CMRS licensees in the 800 MHz band" to eliminate the intermodulation problem.⁹⁰ Unlike the existing plans, the 700 MHz plans separate the incompatible Public Safety and low-site digital CMRS systems rather than removing the compatible Business and I/LT systems. Public Safety licensees also acknowledge that this amount of spectral separation would eliminate the interference problem.⁹¹

b. The 700 MHz Plans Reduce the Time and Cost Necessary to Implement a Rebanding Solution

The 700 MHz plans mitigate the time and cost inherent to a retuning or relocation by including numerous benefits. For example, Public Safety licensees that relocate to the 700 MHz band could deploy advanced technologies or new equipment that is more spectrally efficient and less susceptible to interference than their current systems. The 700 MHz plans would also provide enough "green space," *i.e.*, 54 MHz of spectrum, to satisfy Public Safety licensees' need

⁹⁰ Comments of Motient Communications, Inc. 17 (May 6, 2002) [hereinafter *Motient Comments*]; *see, e.g., AT&T Comments* at 10-12.

⁹¹ Joint Comments of Cities of College Station, Texas and Bryan, Texas 2 ¶ 6 (May 3, 2002); Comments of City of Austin, Texas 1 ¶ 5 (May 6, 2002); Comments of City of Fort Lauderdale at 5 ¶ 27 (May 3, 2002).

to construct redundant systems and operate the existing and new infrastructures simultaneously for a period of time to ensure a seamless transition.⁹²

Although the transition to the 700 MHz band would take several years, Delmarva and Atlantic noted below that any 800 MHz realignment is likely to take more time to implement than predicted by Nextel. In addition, unlike the Nextel Plan, the 700 MHz Plan would guarantee interference-free Public Safety operations. This delay would also allow manufacturers time to develop the necessary equipment.

c. The 700 MHz Plans Provide an Equitable Funding Mechanism

Unlike the Nextel Plan, Public Safety licensees would receive full reimbursement for their relocation under the 700 MHz Plan, without imposing additional costs on other innocent licensees. In accordance with the requests of Public Safety licensees, the 700 MHz Plan would also guarantee payment of the funds before they incur any relocation expenses.⁹³

d. The 700 MHz Plans Do Not Relegate Licensees to Secondary Status

The 700 MHz plans permit incumbent licensees to continue operating on a primary basis. Unlike the Nextel or District of Columbia plans, the 700 MHz plans grant incumbent licensees in the 800 MHz band regulatory certainty and permit them to upgrade their existing systems without risking their investments.

⁹² *E.g., id.* at 23; *Baltimore City Comments* at 3-4; *E.F. Johnson Comments* at 2; *AEP Comments* at 7.

⁹³ *APCO Comments* at 22; *see, e.g., New York State Comments* at 24.

e. The 700 MHz Plans Provide Adequate Replacement Spectrum for Public Safety Licensees

The 700 MHz plans would not present the same difficulties with unavailable spectrum as the Nextel Plan. While the Nextel Plan would require incumbent licensees to relocate to the 700 MHz Guard Band, the 700 MHz plans would provide Public Safety licensees with 54 MHz of spectrum in contiguous blocks of 15 MHz, 12 MHz, 15 MHz, and 12 MHz. This amount of spectrum should enable Public Safety licensees to coordinate their operations in the 700 MHz band to avoid incumbent broadcast licensees.

In addition, equipment should become available for Public Safety operations in the 700 MHz band in the near future. Manufacturers have known since 1997 that Public Safety licensees would operate in this band and, given the 24 MHz of spectrum already allocated in this band, manufacturers have had a clear economic incentive to initiate production of this equipment. In fact, some manufacturers have already started to design and produce infrastructure as well as portable and mobile radio products.⁹⁴

2. The 700 MHz Plans Would Also Allocate a Substantial Amount of Spectrum to Public Safety Users

Under the 700 MHz Plan, the spectrum allocation in the 700 MHz band would increase from 24 MHz to 54 MHz. Although Delmarva and Atlantic believe that the FCC should conduct an independent study on existing and future needs, initiate a separate rulemaking, and request additional public comment before allocating any spectrum to Public Safety, they recognize that this additional allocation would essentially satisfy the projected spectrum needs under the 1996 *PSWAC Final Report*.

⁹⁴ *Motorola to Design and Manufacture Equipment for Access Spectrum 700 MHz Guard Band Spectrum*, available at http://www.accessspectrum.com/news_room/press_releases/oct_17_2001.htm.

In addition, the 700 MHz plans would consolidate the Public Safety operations in a single band. These contiguous spectrum blocks would enable the development of broadband equipment, would permit the deployment of more spectrally efficient infrastructure and equipment, and would increase the capacity of the Public Safety systems.⁹⁵ The contiguous spectrum blocks would also improve interoperability without the need for expensive multi-band radios.⁹⁶ Defining eligibility for part or all of this allocation by reference to the definition of "public safety radio services" in section 309(j)(2) of the Communications Act, as amended, would also help to meet the needs of utilities and other critical infrastructure industries and permit interoperability with state and local Public Safety agencies.⁹⁷

3. The Necessity of Congressional or Administrative Action Should Not Deter the FCC from Pursuing the 700 MHz Plans

In its comments, Nextel opposed the 700 MHz plans because Congress would have "to reverse a number of significant legislative actions" and the FCC would have "to initiat[e] and conclud[e] several complex rulemaking proceedings."⁹⁸

Despite the apparent necessity of legislative and administrative action, Congress and the FCC have already demonstrated their willingness to protect Public Safety operations. Congress has previously acted to protect Public Safety communications on several occasions.⁹⁹ In

⁹⁵ *AT&T Comments* at 10-12; *Boeing Comments* at 17-19.

⁹⁶ *E.g.*, *AT&T Comments* at 10-12; *Boeing Comments* at 17-19.

⁹⁷ 47 U.S.C. § 309(j)(2).

⁹⁸ Comments of Nextel Communications, Inc., WT Docket No. 99-168, 5 (May 3, 2002) [hereinafter *Nextel 700 MHz Comments*].

⁹⁹ Congressional action has triggered the FCC's allocation of Public Safety spectrum in each of the allocations described above in Section III. Balanced Budget Act § 3004, 47 U.S.C. § 337(a)(2); Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66 § 6001, 107 Stat. 312 (1993); Federal Communications Commission Authorization Act of 1983, Pub. L. No. 98-214 § 9(a), 97 Stat. 1467 (1983).

addition, Congress recently passed, and the President signed into law, a statute that postponed indefinitely the auction deadline for the 700 MHz band, concluding that "[t]he Commission should not hold the 700 MHz auction before the 800 megahertz interference issues are resolved or a tenable plan has been conceived."¹⁰⁰ The bill also expressed a desire to revisit the mandatory commercial allocation in the 700 MHz band because "[c]ircumstances in the telecommunications market have changed dramatically since the auctioning of spectrum in the 700 MHz band"¹⁰¹

The FCC has also taken action to accommodate the 700 MHz plans. In response to several petitions, including at least two from Public Safety entities,¹⁰² the FCC postponed the impending auction date for the upper 700 MHz band until January 14, 2003.¹⁰³ These actions suggest that Congress and the FCC are prepared to effect the legislative and administrative outcomes necessary to implement the 700 MHz plan.

VI. THE EXISTING REBANDING PROPOSALS REQUIRE SIGNIFICANT MODIFICATIONS BEFORE THEY WOULD BECOME FEASIBLE SOLUTIONS TO THE INTERFERENCE PROBLEM

Despite the widespread support for a technical or market-based solution, a few commenters propose out-of-band or in-band relocation plans similar to those outlined in the

¹⁰⁰ Auction Reform Act of 2002, H.R. 4560, 107th Cong. §§ 2(4), 3(a), 4 (2002) (enacted).

¹⁰¹ *Id.* § 2(1).

¹⁰² Letter from Glen Nash, President of APCO International, to Michael Powell, Chairman of the Federal Communications Commission, WT Docket No. 99-168, GN Docket No. 01-74 1 (May 2, 2002); Comments of the National Emergency Number Association, Service Rules for the 746-764 and 776-794 MHz Bands (Television Channels 60-69), WT Docket No. 99-168, GN Docket No. 01-74, DA 02-260, 02-563, 2-3 (May 1, 2002); *see, e.g., Bergen County Police Comments* at 6.

¹⁰³ Auction of Licenses in the 747-762 and 777-792 MHz Bands (Auction No. 31) Postponed Until January 14, 2003; Auction of Licenses in the 698-746 MHz Band (Auction No. 44) Will Proceed as Scheduled, Report No. AUC-02-31-F (Auction No. 31) and AUC-02-44-D (Auction No. 44), *Public Notice*, 17 F.C.C. Rcd. 994 (2002).

NPRM.¹⁰⁴ While Delmarva and Atlantic support the adoption of market-based technical solutions or, alternatively, a relocation of Public Safety licensees to the 700 MHz band, they recognize that the FCC is also considering other rebanding plans. As mentioned in Section V, however, these plans suffer from several fundamental defects. If the FCC decides to adopt one of these plans, it must remedy these problems.

A. The FCC Must Provide Comparable and Adequate Replacement Spectrum

1. The Replacement Spectrum Offered by the Nextel Plan Is Neither Comparable Nor Adequate

The 700 MHz Guard Band and the 900 MHz band do not constitute comparable or adequate replacement spectrum. In addition to the complaints by Business and I/LT licensees, Public Safety users also believe mandatory relocation to these spectrum bands would unnecessarily burden Business and I/LT licensees because of the lack of adequate, available, and comparable spectrum.¹⁰⁵

a. The 700 MHz Guard Band Would Not Provide Adequate or Comparable Replacement Spectrum for Business and I/LT Licensees

The 700 MHz Guard Band provides an insufficient amount of spectrum for incumbent Business and I/LT licensees because Nextel only holds spectrum in 92 of the top 100 cities.¹⁰⁶

¹⁰⁴ *E.g.*, Comments of State of Maryland Department of Budget and Management, Office of Information Technology 7-16 (May 6, 2002); *Coalition Comments* at 16-19; *Private Wireless Coalition Comments* at 6-22; *CTIA Comments* at 7-9; *Pinnacle West Comments* at 11-16; Comments of State of Hawaii, Department of Accounting and General Services, Information and Communication Services Division 2 (May 6, 2002); *District of Columbia Comments* at 16-17; *TRW Comments* at 3; *RadioSoft Comments* at 2-7; Comments of Carl R. Guse 1 (May 6, 2002); *M/A-COM Comments* at 10-16.

¹⁰⁵ *Baltimore City Comments* at 3; *District of Columbia Comments* at 4-5; *Gainesville Police Department Comments* at 2.

¹⁰⁶ *Nextel Comments* at 45.

This lack of nationwide spectrum is unacceptable for utilities and other licensees that must operate in rural parts of the country.¹⁰⁷ Although Nextel claims that it could acquire additional spectrum necessary to relocate incumbent licensees,¹⁰⁸ this assurance is not an adequate basis for a rebanding. To the contrary, if Nextel has easy access to additional spectrum, it should relocate to that spectrum instead of disrupting all other 800 MHz licensees.

Nextel also fails to explain how Business and I/LT licensees could relocate to the 700 MHz Guard Band within one to three years when incumbent broadcast licensees will occupy the spectrum until at least December 31, 2006, a period of more than four years. Nextel even concedes that wide-area or regional systems, such as those operated by utilities, "are most likely to be precluded by existing broadcast UHF television facilities."¹⁰⁹ This disregard for the critical nature of utility operations epitomizes the unacceptable nature of Nextel's rebanding proposal.

In addition to the unavailability of spectrum, the 700 MHz Guard Band is not comparable because equipment is not currently available¹¹⁰ and because it has different bandwidth, coverage, and technical restrictions that foreclose technological innovation.¹¹¹

b. The 900 MHz Band Is Inadequate Replacement Spectrum

The 900 MHz band is also not comparable and adequate replacement spectrum for Business and I/LT incumbent licensees. As with the 700 MHz Guard Band, the 900 MHz band

¹⁰⁷ Comments of Ad Hoc Wireless Alliance 5 (May 6, 2002) [hereinafter *Ad Hoc Comments*]; *District of Columbia Comments* at 4; *AEP Comments* at 3.

¹⁰⁸ *Nextel Comments* at 46.

¹⁰⁹ *Id.* at 45.

¹¹⁰ *E.g.*, *Skitronics Comments* at 5-6; *APTA Comments* at 2; *District of Columbia Comments* at 5.

¹¹¹ *SCANA Comments* at 35; *Cinergy Comments* at 45-46; *Ad Hoc Wireless Committee Comments* at 5; *Motient Comments* at 2-3.

suffers from heavy congestion and Nextel lacks nationwide spectrum.¹¹² Although Nextel uses a "running average" calculation to inflate the appearance of its spectrum holdings, it acknowledges in a footnote that this average only covers the top 100 markets.¹¹³ In any event, a running average does not demonstrate the actual availability of spectrum in ALL markets where incumbents would be relocated.¹¹⁴

The 900 MHz band is also not comparable to the 800 MHz band because the propagation characteristics and bandwidth are unsuitable for Business and I/LT operations, reducing the coverage area by up to 30% and decreasing data speed.¹¹⁵ Moreover, the congested nature of the band would foreclose any future system expansion.¹¹⁶ Finally, several commenters complain that the transition to 900 MHz would impose substantial costs on incumbents because of the need to replace equipment and add additional radio sites in order to duplicate the system for a seamless transition.¹¹⁷

¹¹² *E.g., Business Autophones Comments* at 2; *District of Columbia Comments* at 4; Comments of Association of American Railroads 2 (May 6, 2002); *SCANA Comments* at 35-37.

¹¹³ *Nextel Comments* at 3 n.6, 44-45.

¹¹⁴ If the FCC were to decide this docket based on averages, one could also point out that the average individual or business does not use Nextel service, whereas *all* residents and businesses depend on services of Public Safety agencies and public service utilities. Therefore, Nextel should be entitled to *no* spectrum if to do so would impact Public Safety or critical infrastructure industries.

¹¹⁵ *Harmer Comments* at 3; *Sid Richardson Comments* at 3; *Pinnacle West Comments* at 20; *Motient Comments* at 3; Comments of Wiztronics, Inc. 2 (Apr. 11, 2002).

¹¹⁶ *CP&L/TXU Comments* at 5.

¹¹⁷ *Baltimore City Comments* at 3; *AEP Comments* at 10-11.

2. The FCC Must Provide Displaced Licensees with Replacement Channels on a 1:1 Basis, an Orderly and Predictable Relocation Process, and Growth Spectrum

Any mandatory relocation plan must provide displaced licensees with comparable and adequate replacement spectrum. The plan must assure licensees that they would receive replacement spectrum on a 1:1 basis before having to take any steps to relocate. The plan must also provide for growth spectrum for Business and I/LT licensees. At a minimum, Business and I/LT channels vacated by Nextel should not be frozen but should remain available for licensing by new Business and I/LT systems or for modifying existing systems.

In addition to comparable and adequate replacement and growth spectrum, the FCC must ensure that any mandatory relocation process is orderly and predictable from the outset. In particular, licensees should not have to relocate their systems on a piecemeal basis. The plan should instead permit licensees to map out their entire system's relocation in advance. The plan also should provide licensees with an appropriate amount of time to relocate. For example, systems with five or more sites should have at least three years to complete the relocation process. Because of this quick transition period, the FCC should also adopt a liberal waiver policy to provide these licensees with extensions of time, when necessary.

To meet the requirements of an acceptable relocation plan, the FCC should provide for complete coordination of a licensee's system on new channels as a necessary condition of a party's obligation to relocate. In other words, a licensee facing relocation would first obtain a complete frequency plan for its system on the new channels, with all frequencies accounted for and reserved to the licensee.

B. Retuning or Relocation Under the Existing Plans Would Take Several Years and Cost Billions of Dollars

The FCC should avoid imposing retuning or relocation because that would take several years and cost billions of dollars.

1. The Record Indicates that Many Incumbent Licensees Would Have to Replace, Rather than Retune, Their Equipment

The 800 MHz realignment plans would force many incumbent licensees to replace their systems. Although a few commenters suggest that incumbent licensees could simply retune their equipment, the "process involve[s] much more than just re-programming radios."¹¹⁸ In particular, commenters suggest a number of practical barriers to retuning, including memory capacity limitations, lack of test lab diagnostic tools, obsolescence of older subscriber units and retuning/reprogramming components, complexities arising from system coordination of software releases, and lack of appropriate documentation.¹¹⁹

Retuning or relocation would create additional problems for "public safety and critical infrastructure industry users that cannot afford any system down-time for equipment modifications."¹²⁰ To ensure a seamless transition to their new spectrum, licensees must construct redundant communications systems and operate the existing and new infrastructures simultaneously for a period of time.¹²¹ The construction of a duplicate system would raise many

¹¹⁸ *CR&T Comments* at 2; *see, e.g., Motorola Comments* at 22; *Comments of Cinergy Corporation* 26-27 (May 6, 2002) [hereinafter *Cinergy Comments*]; *Baltimore City Comments* at 3; *Exelon Comments* at 4; *NRECA Comments* at 6; *Boone Comments* at 2; *Washington Electric Comments* at 4-5; *White County Comments* at 2; *Questar Comments* at 2.

¹¹⁹ *E.g., Motorola Comments* at 22; *Cinergy Comments* at 26-27.

¹²⁰ *Motorola Comments* at 23.

¹²¹ *Id.*; *Baltimore City Comments* at 3-4; *E.F. Johnson Comments* at 2; *AEP Comments* at 7.

practical problems because licensees would require twice as many frequencies, additional facilities, and solutions to existing integration problems.¹²²

In addition to the practical problems, these system modifications would require the expenditure of substantial amounts of money. For example, Delmarva and Atlantic spent approximately \$32 million and dozens of man-years to construct 56 control stations and 36 mobile relay station sites, featuring a total of 145 transmitters, and to purchase and deploy 2,223 mobile units.¹²³ While modifications to Delmarva and Atlantic's systems would cost millions of dollars, Motorola estimates that the Nextel Plan would cost the industry between \$2.8 and \$3.9 billion and that the NAM Plan would cost the industry between \$1.6 billion and \$2.2 billion.¹²⁴ These costs would greatly exceed the amounts necessary to implement technical or market-based solutions recommended by Delmarva and Atlantic.

2. The Transition Period Would Delay the Resolution of Public Safety Interference for Several Years

Because many incumbent licensees would have to replace, rather than retune, their systems, the transition period would take much longer than predicted by Nextel and would delay the resolution of Public Safety interference indefinitely. Several commenters that have relocated in recent years report that significant delays as well as other difficulties arose during their transition to new spectrum. For example, Texas Utilities relocated its operations to the 900 MHz band.¹²⁵ The transition of this single licensee to another band took seven years and cost \$40

¹²² *AEP Comments* at 7-9; *Baltimore City Comments* at 3-4.

¹²³ Comments of Delmarva Power & Light Company and Atlantic City Electric Company 34 (May 6, 2002) [hereinafter *Delmarva/Atlantic Comments*].

¹²⁴ *Motorola Comments* at 24.

¹²⁵ *CP&L/TXU Comments* at 16.

million, greatly exceeding Nextel's projections of between one and three years to relocate *all* licensees in the band.¹²⁶

While Texas Utilities completed an out-of-band relocation, delay also exists with respect to in-band relocations. After suffering interference from Nextel's low-site digital system, Harmer Communications negotiated a voluntary relocation agreement to relocate from the "upper 200" SMR channels to another part of the 800 MHz band.¹²⁷ More than eighteen months after it started its relocation process, Harmer Communications is "still in the process of collecting and reprogramming units for this migration" and continues to suffer interference from Nextel.¹²⁸ These two situations dealt with individual relocations. If the FCC were to adopt a band-wide realignment plan, it would magnify these problems exponentially.

As explained in greater detail above, relocation of Business and I/LT licensees would take longer than predicted by Nextel because the 700 MHz Guard Band and 900 MHz replacement spectrum are not currently available in many parts of the country. While Nextel states that the presence of broadcasters will prevent the relocation of Public Safety licensees to the 700 MHz band, it inconsistently asks the FCC to move Business and I/LT licensees to this spectrum.¹²⁹

Thus, because of its experience relocating incumbent licensees out of the "upper 200" channels, and because of its predictions about the incumbency problems in the 700 MHz band, Nextel should be aware that relocating incumbent Business and I/LT licensees, even within the 800 MHz band, will take much longer than one to three years.

¹²⁶ *Id.*; *Nextel White Paper* at 47.

¹²⁷ *Harmer Comments* at 2.

¹²⁸ *Id.*

¹²⁹ *Nextel Comments* at 3-4.

C. The FCC Must Ensure the Availability of an Adequate Source of Funding for Public Safety, Business, and I/LT Relocation

The funding mechanism is a critical element of any proposed 800 MHz realignment proposal, but many proposals fail to provide an adequate source of guaranteed funding for 800 MHz licensees.

1. Nextel's Plan Requires Public Safety Licensees to Fund a Substantial Portion of Their Relocation

Public Safety commenters complain that the \$500 million offered under the Nextel Plan "is totally inadequate" to cover the relocation of their systems.¹³⁰ In particular, they demand "full reimbursement of public safety agencies' costs" and guaranteed funds.¹³¹ They also object to Nextel's attempt to limit its liability to \$500 million.¹³²

Moreover, Nextel has carefully conditioned its offer such that Public Safety licensees receive nothing if the FCC does not grant Nextel 10 MHz of 2 GHz MSS spectrum and require Business, I/LT, and non-cellular SMR licensees to fund their own relocations out of the 800 MHz band.¹³³ Thus, even assuming the FCC accedes to all of Nextel's demands, Public Safety licensees would have to fund between \$600 million and \$1 billion of their own relocation costs.¹³⁴

¹³⁰ *Baltimore City Comments* at 1; *see, e.g., TRW Comments* at 8; *APCO Comments* at 22; *Baltimore County Comments* at 3, 4; *New York State Comments* at 24, 46.

¹³¹ *APCO Comments* at 22; *see, e.g., New York State Comments* at 24.

¹³² *E.g., New York State Comments* at 24, 46; *APCO Comments* 22; *TRW Comments* at 8.

¹³³ *Nextel Comments* at 5-6.

¹³⁴ *Motorola Comments* at 24.

2. Innocent Licensees Should Not Bear Relocation Costs

The vast majority of commenters agree that the interfering licensee or the federal government should fund any relocation of incumbent licensees. Delmarva and Atlantic, as well as several other commenters, recommended that the FCC apply its existing interference mitigation rules in sections 90.173(b) to require the licensees that cause interference to bear the costs of resolution.¹³⁵ Public Safety commenters also believe that Nextel, as the interfering licensee, "should be prepared to fully fund the relocation of public safety."¹³⁶

While many commenters agree that the FCC could require an interfering licensee to reimburse the displaced licensees in accordance with the relocation rules set forth in the *Emerging Technologies* proceeding, Delmarva and Atlantic also note that the FCC has previously rejected a self-serving proposal, similar to Nextel's Plan, concerning the relocation of incumbent licensees from the 18 GHz band.

In 2000, the FCC reallocated the 18 GHz band to provide separate allocations for satellite and terrestrial users.¹³⁷ To protect incumbent terrestrial licensees from interference caused by satellite operators, the FCC adopted the rules from the *Emerging Technologies* proceeding, requiring the satellite operators to relocate incumbents to comparable facilities.¹³⁸ By affirming this long-standing reimbursement policy, the FCC rejected an alternative proposal by Teledesic

¹³⁵ E.g., *CP&L/TXU Comments* at 7; *DART Comments* at 3; *Brown Paper* at 4; *NRECA Comments* at 11; *Skitronics Comments* at 36; *UTC Comments* at 7.

¹³⁶ *New York State Comments* at 24, 46; see, e.g., *Newport News Comments* at 1; *Michigan State Police Comments* at 2; *Fairfax County Comments* at 7; *IAFC/IMSA Comments* at 11.

¹³⁷ In re Redesignation of the 17.7-17.9 GHz Frequency Band, IB Docket 98-172, RM-9005, RM-9118, Report and Order, 15 F.C.C. Rcd. 13430 (2000).

¹³⁸ *Id.* ¶ 76.

that would have required satellite operators to compensate displaced incumbent licensees only for the unamortized book value of their old equipment.¹³⁹

On appeal, the U.S. Court of Appeals for the District of Columbia Circuit affirmed the FCC's decision to provide full reimbursement, holding that the rejection of Teledesic's self-serving proposals was reasonable because they "are patently inconsistent with the Commission's well-explained goals."¹⁴⁰ Because "Teledesic's proposals [were] aimed less at smoothing the way for reallocation than at minimizing its own costs," the D.C. Circuit found that they did not satisfy the FCC's goal of protecting existing terrestrial services.¹⁴¹ Instead of protecting incumbent terrestrial services, Teledesic's proposals would have put incumbent licensees out of business if they could not afford replacement equipment.¹⁴² In addition, by requiring interfering licensees to reimburse displaced incumbents, the FCC adhered to its policy of permitting incumbents to continue service with a minimum of disruption.¹⁴³ Thus, the D.C. Circuit affirmed the FCC's consistent policy of providing full reimbursement for displaced incumbent licensees.¹⁴⁴

The Nextel Plan is similar to the rejected Teledesic proposal because it would deny full reimbursement to licensees displaced by interference. While Teledesic's proposal would have paid only the book value of the existing equipment, Nextel's Plan is even more unfair because it would force uninvolved licensees to fund all relocation costs. The FCC should affirm its long-

¹³⁹ *Id.* ¶ 78.

¹⁴⁰ *Teledesic LLC v. FCC*, 275 F.3d 75, 84-87 (D.C. Cir. 2001).

¹⁴¹ *Id.* at 85.

¹⁴² *Id.*

¹⁴³ *Id.*

¹⁴⁴ *Id.* at 87.

standing policy of requiring the interfering licensee to reimburse displaced licensees for comparable facilities.¹⁴⁵

Nextel asserts that the *Emerging Technologies* relocation rules should not apply to any realignment of the 800 MHz band because the Public Safety licensees would benefit substantially from the relocation.¹⁴⁶ However, the FCC has consistently applied the reimbursement obligation to the licensee causing harmful interference to the incumbent licensee.¹⁴⁷ Even if the rules did require the licensee that benefited the most to pay for the relocation, any suggestion that Public Safety licensees would benefit from paying for a substantial portion of their relocation is erroneous, especially when Nextel stands to benefit substantially from the cleared spectrum and from the reprieve from financial responsibility for interference resolution.

3. The Absence of Guaranteed Relocation Funds Would Have Dire Consequences for Many Licensees

Many commenters complain about the lack of guaranteed relocation funds. As mentioned above, Public Safety commenters rightfully demand guaranteed funds before they incur any relocation expenses.¹⁴⁸ But Public Safety licensees are not the only licensees that would suffer grievous economic harm because of an unfunded relocation.

¹⁴⁵ Some commenters have suggested the use of federal funds, such as auction revenues or Homeland Security funds. *E.g.*, *UCAN Comments* at 4 ¶ 14; *API Comments* at 14; *Blooston Commenters* at 6; *RCC Consultants Comments* at 7; *Portland Comments* at 10. Such funds would be appropriate sources for relocating or upgrading Public Safety systems.

¹⁴⁶ *Nextel Comments* at 41.

¹⁴⁷ *E.g.*, In re Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service; ET Docket No. 95-18, *Second Report and Order*, 15 F.C.C. Rcd. 12315, 12341 ¶ 78 (2000).

¹⁴⁸ *E.g.*, *APCO Comments* at 22; *New York State Comments* at 24.

In the event of a mandatory relocation of Business and I/LT licensees, many commenters stated that they would experience devastating consequences. For example, Delmarva and Atlantic have invested approximately \$32 million and dozens of man-years in time into the construction of their extensive systems.¹⁴⁹ As regulated entities, Delmarva and Atlantic may not have the opportunity to recover their relocation costs because of rate restrictions imposed by state public service commissions.¹⁵⁰ Thus, "Delmarva, Atlantic, and utilities in general would suffer unique hardships in the event of a mandatory relocation"¹⁵¹

While companies such as Delmarva and Atlantic would suffer substantial disruption and cost, and these rebanding proposals would force many small business owners to surrender their radio systems or declare bankruptcy.¹⁵² Bosshard, a small SMR licensee, calculated its relocation costs at approximately \$1.2 million, while it only has annual revenues of \$120,000.¹⁵³ Because Bosshard could not reasonably devote all of its revenues for the next ten years to the relocation, it would have to abandon its system.¹⁵⁴ Thus, the FCC should not attempt to justify a realignment of the 800 MHz spectrum by assuming that it would only impact large companies with multi-million dollar systems.

Other commenters point out that Nextel's plan is nothing more than a thinly veiled attempt to increase its subscriber base. Because the Nextel Plan would impose substantial costs

¹⁴⁹ *Delmarva/Atlantic Comments* at 34.

¹⁵⁰ *Id.* at 34-35.

¹⁵¹ *Id.* at 35.

¹⁵² *E.g.*, Comments of Bosshard Radio Service 3 (May 6, 2002) [hereinafter *Bosshard Comments*]; *Skitronics RFA Response* at 7-9; *CR&T Comments* at 3; Comments of Business Autophones Inc. 2 (May 6, 2002); Comments of AVR, Inc. 2 (May 6, 2002); *Island SMR Comments* at 2; *Tilles Joint Commenters* at 23.

¹⁵³ *Bosshard Comments* at 3.

¹⁵⁴ *Id.*

on incumbent Business and I/LT licensees that have nothing to do with Public Safety interference, many commenters alleged that the ulterior motive of the proposal is to "eliminate the last vestiges of competition" in the 800 MHz band.¹⁵⁵ In addition to allegations that Nextel intends to misappropriate customers from smaller competitors, commenters view the plan as retribution for spurning Nextel's advances to supplant their private radio system with commercial service. By increasing the cost of using their systems, Nextel would essentially compel these licensees to take service from a commercial provider in order to stay in business.¹⁵⁶

4. A Market-Based Mechanism Would Ensure the Existence of Adequate Relocation Funds

To provide displaced incumbent licensees with guaranteed relocation funds, Delmarva and Atlantic recommend that the FCC combine a market-based plan with a right of relocation. For example, under a market-based plan, the ability of a licensee to acquire contiguous spectrum in the NPSPAC band could be conditioned on its relocating, at its own expense, all incumbents in that band, as well as any other incumbents that would be required to relocate to accommodate these transitions, to equivalent in-band spectrum. To carry out the relocation, the displacing licensee would have a right to relocate the incumbents but would have to place an amount sufficient to cover the projected cost of relocation in escrow prior to commencing the relocation process. In the event of bankruptcy, insolvency, or other inability of the displacing licensee to complete the necessary relocations, funds from this escrow account may be used to reimburse all reasonable steps to complete the transition. Thus, while incumbents would work directly with the relocating licensee to plan, implement, and fund the relocation, the escrow would provide

¹⁵⁵ *Skitronics RFA Response* at 7; see, e.g., *CR&T Comments* at 3.

¹⁵⁶ *CP&L/TXU Comments* at 16.

assurance that the process will be completed with or without the continuing involvement of the relocating licensee.

D. Rebanding Plans Must Balance Interference Protection with Flexibility to Install Advanced Systems

The FCC should continue to follow its long-standing policy of promoting the development and deployment of new technologies.¹⁵⁷ To this end, the FCC should not adopt broad restrictions on the 800 MHz band that would preclude the deployment of advanced systems by Business and I/LT licensees.

In its initial comments, however, the Private Wireless Coalition recommended just such a restriction, proposing that the FCC limit the introduction of cellular-like system architecture in this band. Delmarva and Atlantic believe that, rather than prohibiting "cellular-like" systems below 861 MHz or imposing onerous conditions that would effectively prohibit development of advanced systems, the FCC should adopt rules to balance licensees' need for flexibility with adequate protections against interference.

The FCC recently adopted such rules for the Public Safety portion of the 700 MHz band, balancing the protection of Public Safety licensees from interference with the commercial use of other parts of the band. In a *Memorandum Opinion and Order*, the FCC noted that it could set technical limits that would provide Public Safety licensees with maximum protection from interference, however, "at some point, the incremental benefits to protection of public safety . . . would be outweighed by the adverse effects on the commercial usefulness of the spectrum."¹⁵⁸

¹⁵⁷ *Id.* at 14-15.

¹⁵⁸ 700 MHz *Third Memorandum Opinion and Order*, FCC 02-204 ¶ 2 n.7 (quoting *In re Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules*, WT Docket No. 99-168, *Carriage of the Transmissions of Digital Broadcast Stations*, CS Docket No. 98-120, *Review of the Commission's Rules and Policies Affecting the Conversion to*

Thus, the FCC concluded that it should adopt technical restrictions that, "while achieving the primary goal of protecting public safety, also strike a reasonable balance between protecting public safety and maintaining the commercial viability of the band."¹⁵⁹ In the present proceeding, the FCC should allow the same flexibility so that advanced technologies are not unreasonably constrained.

E. Commenters Overwhelmingly Oppose the Imposition of Secondary Status on Business and I/LT Licensees in the 800 MHz Band

1. The Record Indicates that Business and I/LT Licensees Could Not Operate Their Systems on a Secondary Basis

The FCC should not relegate Business and I/LT licensees to secondary status as a result of a relocation plan.¹⁶⁰ Secondary status would rob these licensees of regulatory and operational certainty by requiring them to cease operations at a moment's notice.

This proposal is especially damaging to critical infrastructure industries, including utilities such as Delmarva and Atlantic. The FCC recognized the importance of these utility operations in its *NPRM*, stating that "it would not appear advisable to require a station associated with the restoration of electrical power service to precipitously discontinue service."¹⁶¹ The FCC's position is consistent with the national policy of protecting critical infrastructure industries, which President Bush most recently displayed in the proposal for a Department of

Digital Television, MM Docket No. 00-39, *First Report and Order*, 15 F.C.C. Rcd. 476, 518-19 (2000)).

¹⁵⁹ *Id.*

¹⁶⁰ *E.g.*, *NRECA Comments* at 5; *NAM/MRFAC Comments* at 8; *API Comments* at 10-11; *National Rural Telecom Comments* 3; *IAFC/IMSA Comments* at 10; *Comments of ISG Cleveland* 3 (May 6, 2002) [hereinafter *ISG Cleveland, Inc. Comments*]; *Lockheed Martin Comments* at 9-11; *Comments of Exelon Corporation* 5-6 (May 6, 2002) [hereinafter *Exelon Comments*]; *Boone Comments* at 2.

¹⁶¹ *NPRM*, 17 F.C.C. Rcd. 4873 ¶ 34.

Homeland Security.¹⁶² Commenters agree with this national policy, concluding that the imposition of secondary status on utility licensees would endanger the safe and reliable communications indispensable to these critical operations.¹⁶³ Thus, this proposal is characteristic of Nextel's unfamiliarity with or indifference to the critical communications of public service utilities, and the FCC should reject this proposal as contrary to the public interest.

2. Public Safety Commenters Rejected Secondary Status for Business and I/LT Licensees

Public Safety commenters also oppose the imposition of secondary status on Business and I/LT licensees. While a few commenters believe that Business and I/LT operations could interfere with Public Safety operations,¹⁶⁴ APCO "recognize[s] the potential hardship that this may cause for these licensees, some of whom provide important communications for critical infrastructure industries, [and] . . . would welcome consideration of alternatives that mitigate the impact on non-public safety users"¹⁶⁵ In addition, by conferring secondary status on Business and I/LT licensees, the FCC would jeopardize existing and future spectrum sharing between utilities and Public Safety entities, potentially precluding the deployment of spectrally efficient and more advanced technologies.¹⁶⁶

¹⁶² *Homeland Security Proposal* at 8, 15.

¹⁶³ *E.g., NRECA Comments* at 5; *NAM/MRFAC Comments* at 8; *API Comments* 10-11; *National Rural Telecom Comments* at 3; *IAFC/IMSA Comments* at 10; *ISG Cleveland Comments* at 3; *Lockheed Martin Comment* at 9-11; *Exelon Comments* at 5-6; *Boone Comments* at 3.

¹⁶⁴ *E.g., IAFC/IMSA Comments* at 10; *UCAN Comments* at 4.

¹⁶⁵ *APCO Comments* at 21.

¹⁶⁶ The FCC has already authorized a number of shared Public Safety/public service radio systems that would be jeopardized if the systems are relegated to secondary status. *E.g.,* In re American Electric Power Service Corporation; Request for Waiver of Section 90.179 of the Commission's Rules, *Order*, 15 F.C.C. Rcd. 15553 (WTB 2000); In re Central and South West Services, Inc.; Request for Waiver of Section 90.179 of the Commission's Rules, *Order*, 13 F.C.C. Rcd. 16162 (WTB 1998); In re Commonwealth of Pennsylvania and GPU Energy;

3. Nextel's Revised Proposal Continues to Relegate Business and I/LT Licensees to Secondary Status

Since submitting its *White Paper* in November 2001, Nextel has purported to revise its secondary status proposal.¹⁶⁷ Under the new proposal, Business and I/LT may remain in the 800 MHz band "temporarily until the spectrum is needed for public safety communications."¹⁶⁸ Although packaged somewhat differently, Business and I/LT licensees could still use the spectrum only until the primary licensee, *i.e.*, the Public Safety licensee, decided to assert its authority.

The only difference in the two versions of secondary status is that the revised version adds a further condition that would allow a Public Safety licensee to "lease" the Business or I/LT licensee's own spectrum back to it so that the licensee could remain on the 800 MHz band.¹⁶⁹ This lease-back option could create an illegitimate opportunity for greenmail because Public Safety licensees would have an improper incentive to claim all the spectrum in their service areas, even in areas where they do not operate, in order to generate profit. Because the only alternative for the Business or I/LT licensee would be a costly and disruptive relocation, these licensees would have to agree to the Public Safety licensee's terms or take service from a commercial provider, such as Nextel. Thus, Nextel's revised secondary-use proposal is just another attempt by Nextel to have utilities and other critical infrastructure industries vacate their spectrum and/or pay for Nextel's own mistakes.

Request for Waiver of Section 90.179 of the Commission's Rules, *Order*, 14 F.C.C. Rcd. 14029 (WTB 1999); In re State of South Carolina and SCANA Communications, Inc., *Order*, 13 F.C.C. Rcd. 8787 (WTB 1997).

¹⁶⁷ *Nextel Comments* at 5 n.11.

¹⁶⁸ *Id.*

¹⁶⁹ *Id.*

F. The FCC Should Issue a Further Notice of Proposed Rulemaking before It Contemplates the Adoption of a Particular Rebanding Proposal

As discussed above, a number of commenters have expressed a variety of ways the 800 MHz band could be realigned if the FCC concludes that rebanding is necessary to resolve Public Safety interference. Although several parties may submit additional rebanding proposals in their Reply Comments or in *ex parte* presentations, Delmarva and Atlantic cannot comment directly on the features of these realignment plans until these commenters formally present their proposals to the FCC. Thus, to allow for the creation of a complete and detailed record, the FCC should not consider any proposal until the interested parties in this proceeding have a full opportunity to examine and comment on the issues raised in these Reply Comments and *ex parte* presentations.

In addition, because *any* rebanding plan is likely to entail expenditures of hundreds of millions, if not billions, of dollars over a multi-year period, and to require significant system disruptions, the FCC should not adopt a final plan without issuing a Further Notice of Proposed Rulemaking on these issues. The initial *NPRM* in this docket only outlined very general ideas for rebanding. Moreover, most of the rebanding plans that have been submitted so far, and which Delmarva and Atlantic understand will be filed as Reply Comments, are woefully deficient in explaining either the legal basis for the plan or the details of how the plan could be implemented in practice. Therefore, Delmarva and Atlantic urge the FCC to adopt a Further Notice before contemplating any particular rebanding plan.

VII. CONCLUSION

In conclusion, a band realignment is not a tenable solution to the 800 MHz interference problem. The comments indicate that the FCC lacks crucial information on the cause and extent

of the interference problem and does not possess a sufficient basis to implement a wide-ranging realignment of the 800 MHz band. To remedy this dearth of information, Delmarva, Atlantic, and other commenters recommend that the FCC conduct additional research into the 800 MHz interference problem. By conducting this additional research, the FCC will acquire a thorough understanding of the interference problem. This information will enable it to develop an efficient and effective solution that resolves the interference problem without creating unnecessary or overly broad burdens for licensees that have nothing to do with the interference problem.

The FCC should also initiate further proceedings into the need for additional Public Safety spectrum. Delmarva and Atlantic believe that the FCC should abstain from allocating any additional Public Safety spectrum until it completes its standard process for assessing the current and future needs of those licensees. Specifically, the FCC must conduct a study, initiate a separate proceeding, and request public comment in order to resolve the complex issues surrounding the allocation of Public Safety spectrum.

Delmarva and Atlantic believe that a market-based solution, including technical measures, would provide an efficient and effective solution to the interference problem. Commenters provided numerous examples of technical solutions that have successfully resolved the interference problem. A market-based approach would permit licensees to privately enforce and control the resolution of interference, and use a variety of measures, depending on their unique circumstances and causes of interference. By adopting rules to facilitate this market-based approach, the FCC could also eliminate future instances of interference prior to its occurrence.

If the FCC's additional research suggests that mandatory rebanding is necessary, Delmarva and Atlantic support the allocation of the commercial spectrum in the 700 MHz band to Public Safety. Although legislative and administrative action may be necessary, Congress and the FCC have demonstrated a willingness to adopt measures to implement a 700 MHz alternative plan.

If the FCC decides to adopt a mandatory relocation based on another proposal, it must avoid the problems inherent to most existing plans. For example, the rebanding plan must provide comparable and adequate replacement spectrum, an orderly and predictable relocation process, and growth spectrum for Business and I/LT licensees. In addition, because the existing rebanding plans would impose substantial monetary costs and delays, the FCC must provide a sufficient funding mechanism adhering to market-based principles. The FCC should also decline to relegate Business and I/LT licensees to secondary status because of their critical communications.

Moreover, because of the diversity among the plans already presented by the commenters, and the lack of sufficient detail for licensees to understand their true ramifications, the FCC should only consider rebanding after issuing a Further Notice of Proposed Rulemaking on a plan that would best minimize interference with the least disruption to incumbents.

WHEREFORE, THE PREMISES CONSIDERED, Delmarva and Atlantic respectfully request that the FCC consider these Reply Comments and proceed in a manner consistent with the views expressed herein.

Respectfully submitted,

DELMARVA POWER & LIGHT AND
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Dated: August 7, 2002

CERTIFICATE OF SERVICE

I, Christine S. Bisio, do hereby certify that on this 7th day of August 2002, I caused a copy of the foregoing “Reply Comments of Delmarva Power & Light Company and Atlantic City Electric Company” to be hand-delivered to each of the following:

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